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## Original Communications.

### SUBCUTANEOUS INJECTION OF CORROSIVE SUBLIMATE IN SYPHILIS.

By EDWARD WIGGLESWORTH, JR., M.D., Boston.

ATTENTION is called in Nos. 14 and 17 of this Journal to some experiments made by Dr. O. Max-Van-Mons in the hospital at Pacheco, and reported in the Academy of Brussels in January of this year, to test the value of hypodermic medication in established cases of syphilis. The drug used in these experiments was calomel; the use of corrosive sublimate is, however, preferable, as calomel must first meet the alkaline intestinal fluids before it can be wholly decomposed and absorbed.

M. Jeannel, in his "Theory of the dissolution of calomel in the organism,"\* says: "The alkaline carbonates are the chief decomposers of calomel; in the presence of alkaline fluids, fats dissolve the oxide of mercury proceeding from the decomposition of calomel; the alkaline chlorides in even concentrated solutions produce only a comparatively insignificant decomposition of calomel. If it be true, as Mialhe states, that the chloride of mercury under the influence of alkaline chlorides at the temperature of the body gives always more or less corrosive sublimate, it would still be erroneous to hold with him that it is to this partial transformation that the calomel owes its medical properties. In fact, but a small part of the calomel taken can be dissolved in the stomach in the presence of the acid fluids which contain chloride of sodium; and the more considerable decomposition of the calomel certainly takes place in contact with the alkaline intestinal fluids. Now come the fats. A long series of experiments has proved that, in mixed fluids composed of water, alkaline bicarbonates and fat oil, a very considerable proportion of oxide of mercury proceeding from the decomposed calomel passes in solution into the fat

bodies; this oxide then loses the energy of its chemical affinities, and can be emulsified and absorbed without producing any local irritation. This theory explains why the action of calomel is slow and generally harmless.

"This action is almost nothing as long as the drug remains in the stomach in contact with acid and faintly chloridized fluids. It shows itself as soon as the drug arrives in the intestine, where it meets an alkaline fluid, giving birth to bichloride, but here albumen and fats are at the same time interposed, and these weaken or annul the irritant action of the soluble mercurial salt and of the oxide resulting from the decomposition of the calomel. The mercury is absorbed in the form of an albuminate or of a fatty-acid salt."

The treatment of syphilis by hypodermic injections of corrosive sublimate was introduced to the medical profession by Dr. Lewin of the Charité Hospital at Berlin, who has now in press a work on this subject. Dr. Lewin has published a report\* of 500 cases thus treated. As unfavorable incidents of this treatment he mentions the pain resulting from the caustic property of the sublimate, which, however, was never of long duration or of much importance; inflammation of the skin, and suppurating at the place of injection, can be almost entirely avoided by refraining from the use of concentrated solutions, and by injecting only into parts as remote as possible from lymphatic glands. Toxic manifestations may present themselves after  $\frac{1}{2}$ -1 gr. doses, but do not appear after the usual small doses  $\frac{1}{4}$ - $\frac{1}{2}$  gr. The more moderate grade of intoxication (gastricimus, cardiac pain, constipation alternating with diarrhoea, restless sleep and languor) is to be treated with small doses of opium, the higher grade (colic, vomiting, diarrhoea, vertigo, fainting, coma and reduction of the action of the pulse) by stimulants, as wine, quinine, ether, &c.

\* Gazette Hebdomadaire de Médecine et de Chirurgie, No. 12, March 19th, 1869, p. 189, and Journal de Médecine de Bordeaux, Feb., 1869.

\* Lewin Ueber Behandlung der Syphilis mit Sublimat-injectionen. Annalen des Charitékrankenhauses, 1868, Bd. xiv.; p. 121-762.

Salivation, once regarded as a sort of crisis in the treatment of syphilis by mercury, should be avoided by all possible means. It is a sign of the general saturation of the body with quicksilver, and it is remarkable that even after such small doses as are absorbed by the system in this method of treatment, salivation is, unfortunately, more frequent than in the treatment by inunction. In a large number of cases the addition of morphine to the fluid used as an injection was proved to be a prophylactic against the stomatitis. The mouth was most often affected when, simultaneously with the treatment by injection, a course of iodide of potash was administered.

With regard to relapses, Lewin's statistics show that their occurrence after this treatment is 50 per cent. less frequent than after other modes of treatment, whether mercurial or vegetable. The fewest relapses occurred after a simple uncombined treatment by injections, the greatest number after the combination of the same with treatment by sarsaparilla and sweating, and a lesser number after the combination with iodide of potash. The combination with chl. pot. (10 gr. 1-3 times daily) proves also of no avail against relapses, although it is of service against salivation.

After the simple treatment by injections (which does not forbid the simultaneous employment of remedies for acute or chronic catarrh, scrofula, tuberculosis, anæmia, &c.), not only was the number of relapses diminished, but also their severity. The relapse demands on an average, for its cure,  $\frac{3}{4}$  gr. sublimate less than the original syphilis. Two affections only do not yield to the subcutaneous treatment: syphilis of the bones, and of the brain.

The advantages of the treatment by injections over other methods are the following, according to Lewin:—I. The quickness with which the syphilitic appearances are caused to vanish. This quickness is in exact proportion to the amount of the daily injected doses of sublimate. If  $\frac{1}{4}$ – $\frac{3}{4}$  gr. be injected *pro die*, in two or three doses, violent cases of iritis recover in from five to seven days. This quick cure, which, however, presupposes prudence in the management of the patient, has been employed by Lewin in other forms of syphilis with surprising results. II. The certainty and regularity of its results. Lewin's observations extend over some 900 cases of various degrees of severity. The result was always a thoroughly satisfactory one, with the exception only of cases of bone or brain syphilis. III. The relatively small number and

the mildness of the relapses. IV. Ease of administration, and accuracy in the measurement of the doses; and the forbearance it displays towards the much abused digestive organs.

Dr. Kohn, of Vienna, having called attention\* to these results of the experiments of Dr. Lewin, this method of treatment was employed also by Dr. Derblich, an Austrian Surgeon of Infantry, who thus reports† his most favorable case. "A musician of 60th Regt. Infantry, æt. 21 years, acquired a hard chancre in 1865. Came under my supervision Feb. 27th, 1867. He was a weak, anæmic and easily excitable youth. Reported his last coition as taking place six months before this date, by which coition his chancre, at that time still remaining and still indurated, was broken open, and in spite of wet bandages not yet healed. Patient hoarse; condylomata lata around anus; position of frænum occupied by a chancre, hard as cartilage and shining like parchment, an inch in length and with a slight secretion; glands in groins, elbows and neck enlarged; angina; exantheme on soft palate; on left tonsil two large raised plaques; roseola on breast and back. Patient had been already treated by inunction, which fact, joined to his physically weak condition, induced me to make use of subcutaneous injections.

"1st day—Injected  $\frac{3}{4}$  gr. sublimate dissolved in 10 gr. aq. dest. under a fold of skin on the inner surface of the left upper arm. This was followed immediately by a sensation of weight and pain in arm, disappearing in half an hour.

"2d, 3d and 4th days injected a similar amount into the right and left buttocks and right fore arm respectively.

"5th day—Injected right breast. In each case only momentary pain at point of application. After 5th injection slight dyspnoea lasting  $\frac{1}{4}$  hour, and two liquid stools with slight colic.

"6th day—Injected left forearm. Roseola has disappeared.

"7th to 16th days—Injected daily 1– $\frac{3}{4}$  gr. sublimate in various places. Once a slight subcutaneous hæmorrhage around wound which was in this case on the thigh. Once slight œdema and sensitiveness, the injection in this case being in the left groin. Both cases were relieved in a few hours by wet bandages. In the night of the 16th day severe salivation made its appearance, and before the morning visit some  $\frac{3}{4}$  vi. sa.

\* Wiener Medizinische Presse, No. 11, 1868.

† Ibid., No. 12, March 22d, 1868.

liva had been ejected. Gums red, but neither swelled nor painful.

"On this night loss of sleep, otherwise general health good. Appetite had increased. Patient looked stronger and was more cheerful. Chancre no longer hard. Ulcer in throat healed. The glands before mentioned but slightly swelled. Injections were stopped. Since then the condylomata have disappeared, and patient may be considered cured, so far, at least, as we dare speak of a cure of syphilis. Time of treatment four weeks. Whole amount of sublimate used, gr. j. To military hospitals in particular I recommend this mode of treatment, on account of

"I.—Its security. The regimental surgeon cannot always be present to determine exactly the amount used in an injection. The injection, however, he makes himself, knowing its amount and strength.

"II.—Its cleanliness, which in injections can only be obtained by the use of much soap and ley, and frequent change of garments and bed-clothes.

"III.—Its harmlessness as regards other patients. As is well known, the salve evaporates during injection in a hot room, and causes salivation in other patients in the chamber who are not using any form of mercury.

"IV.—Its cheapness. The cost of the whole amount of sublimate required for the treatment is almost nothing.

"The arguments against the injection appear to me to have but little weight. The inflammation of the skin is slight and yields to wet bandages. Any hardness remaining after the injection can be dispelled by tincture of iodine. One danger alone there is. Prof. v. Nussbaum, in an experiment on himself, had the misfortune to wound a vein. Other cases have also occurred, but none is yet known of death from this cause, though hypodermic injections have been used for years. Moreover, such cases yield to tampons and wet compresses. In general, it is only necessary to select for the injection those parts of the body where the skin is loose, the veins few, and hairs absent, for wounding a hair bulb produces violent pain. It is well to warm the solution before injecting it, and to apply subsequently a bit of plaster to the wound. The best results may be hoped from this method, provided the physician can overcome the antipathy of the patient to anything like a wound, and is willing himself to make the slight extra exertion."

The most recent work published on this

subject\* says, "For the treatment of syphilis by hypodermic injections use a solution of 4 gr. of sublimate to 1 ounce aq. dest. Inject 15 gtt. of this, i.e.,  $\frac{1}{4}$  gr. sublimate. This is invariably followed by pain, to obviate which, add  $\frac{1}{10}$ — $\frac{1}{8}$  gr. acet. morph. and a little glycerine. Should we wish to inject the large dose ( $\frac{1}{4}$  gr.) it is better to inject half the quantity in two places. The syringe should be thoroughly cleaned after using, and smeared with oil, and its permeability retained by a fine silver wire or a bristle. The preferable places for the injection are the outer sides of the extremities, the thorax, shoulders, loins and nates; in short, avoid those parts of the body in whose vicinity the lymphatic glands lie. The best time for the injection is the forenoon; if it is wished to give two injections on the same day, the second should come six hours after the first. The maximum dose of the injection is  $\frac{1}{4}$  gr. sublimate; a stronger concentration of the liquid is to be avoided on account of its local irritating property.

It is not necessary that the patient should remain in bed during the treatment, provided he will preserve a regular temperature and a moderate perspiration, wear a woolen shirt and avoid exertion. His daily food should be reduced to  $\frac{2}{3}$  of its normal amount. Food difficult of digestion should be avoided; as fats, salts, acids and spices. Since, to obtain the best results from a mercurial treatment, it is necessary to guard against salivation as much as possible, the patient must be directed to brush his teeth often and to rinse his mouth frequently with cold water and especially with a solution of chloride of potass. As regards the number of injections, 2½–3 gr. sublimate are generally necessary for a cure, and this quantity should be divided among 15–16 injections."

(To be continued.)

#### PENETRATING WOUND INVOLVING THE FEMALE GENITO-URINARY ORGANS.

By W. G. FROST, M.D., Freeport, Me.

Mrs. G. M. L., a large, robust woman, æt. 38, weighing 190 pounds, while attempting to climb upon a hay-mow, slipped and fell astride a stake of hard wood an inch and a quarter in diameter. The stake first encountered the inner part of the right thigh, roughly abrading the skin, and, passing on, it struck three fourths of an inch to the

\* Compendium der Geschichte, Pathologie und Therapie der venerischen Krankheiten. Von Friedrich Wilhelm Müller, M.D. Erlangen, 1899.

right of the vulva, and, carrying the parts before it, entered the vagina, which it followed about four inches; then, taking a forward direction, it ruptured the bladder, entered the anterior cul de sac, pushing the parts before it, having entered the body ten and one half inches. I found her suffering extreme pain and losing considerable blood, there being no collapse nor chills. The diagnosis at the time was rendered difficult by the great amount of adipose tissue of the parts, and the menses being present the actual hemorrhage was with difficulty ascertained. But the stake bore evidence of the depth of the wound, and the urine draining from the vagina indicated its nature. As I could not discover protrusion of the bowels, I judged that the abdominal cavity was intact.

I gave her one fourth grain doses of morphia often enough to allay the pain, quiet nervous irritation and produce sleep. Then

R. Ant. et potass. tart., gr. i.;

Magnes. sulph., ʒi.;

Aque, ʒiv. M.

A dessertspoonful every two hours to anticipate the inflammatory fever. I hesitated somewhat in applying cold applications, the menses being present, but finding the next day that the symptoms were indicating a considerable loss of blood, I applied them freely, and gave internally gallic acid and opium; after which the hemorrhage ceased entirely. No inflammatory fever followed, and suppuration was established in three or four days. About this time I found the bladder about half filled with blood-clots and pus, which I evacuated by injecting warm water into the bladder through the urethra and allowing it to run out by the vagina. This operation was repeated for a number of days. The bowels were freed every other day by enemata of castor oil. A gum-elastic catheter was kept in the bladder, and the patient put on a light diet. Under this treatment she steadily improved for a fortnight, when the left leg began suddenly to swell, involving the whole limb from hip to toes, but this readily subsided under hot acidulated fomentations. The case after this went on favorably, and in seven weeks she left her bed and walked to the dining-room. The rupture of the bladder left a vesico-vaginal fistula one fourth of an inch in diameter, readily relieved by a surgical operation. The patient at this time, eighteen months after the injury, is enjoying her accustomed health.

July 12, 1869.

## Selected Papers.

### ON THE IMPORTANCE OF THE STUDY OF PHYSICAL SCIENCE IN MEDICAL EDUCATION.

An Address delivered at St. Mary's Hospital, May 22, 1869, by WM. ROBERT GROVE, Esq., Q.C., F.R.S.

#### IN TWO PARTS.—PART II.

THE immense importance of scientific education for medical students will, I trust, induce all interested in the subject to aid the endeavors now being made to introduce the study of physics into public schools. A committee of the British Association, appointed during my presidency, recommended in its report that three hours in the course of each week should be devoted to science. Even this modest suggestion has been deemed by some of those who are well acquainted with the difficulties of changing traditional habits of long standing to be too daring an innovation; but I trust that this small allotment of time may be granted without derogating substantially from the accomplishment of construing, parsing and composing Greek verses. Not that I at all condemn classical or historical education. To understand the present we must read the past; and having a long course of time to select from, we can take the best authors as our guides; but I should incline to let a young man read Shakespeare as well as Virgil, and give him a dose of Galileo as well as of Aristotle.

To my mind there is a great fallacy in the prevailing notion that the most successful education is that which is restricted to a very limited range of subjects. Of course, there is great error in the opposite extreme; but I am sure many of those I address will bear me out in saying that the mind is rendered more elastic, and that the student learns more by some variety in study. Many, who cannot get beyond a limited degree of attainment in one given line, will be capable of reaching that and an equal degree in three or four other pursuits. We see this strikingly exemplified in accomplishments; a man may never pass a certain limit of excellence in playing the flute, in cricket, billiards, or fencing, though he devote all his time to one of them, yet he may attain a fair amount of skill in all. Recent experience has proved that those whose previous training has been formed on a wide basis have shown the greatest aptitude even for special study.

It is too long since I graduated at Oxford



for me to pronounce on the present state of our Universities. What then forcibly struck me was the comparative neglect of passmen, or those not expected to distinguish themselves, in favor of those who promised to raise or keep up the status of their respective colleges. Yet the former need the attention of the tutor far more than the latter; and there are few whose minds will not respond to the teacher's efforts, if the right note be struck.

I am told that, in the London medical schools, somewhere about one thousand young men are educated. The need of science in the medical department of the country ought, if it were useless in other departments, to bring home in a practical form to those having influence on establishments for secondary education the necessity of introducing physical science as a necessary part of the course of study.

Chosen for the task of to-day as having labored in the field of physics, though not of physic, I will venture, at the risk of getting out of my depth, roughly to sketch the relations of science to the healing art, and how illimitable should be the scientific acquirements of the physician or surgeon.

To understand an ordinary machine—e.g., a watch or clock—the action of one force alone has to be considered, such as a falling weight, or the reaction of a coiled spring, &c. In a steam-engine, the consideration of another force—heat—has to be added. In a voltaic battery and its effects, the nearest approach man has made to experimental organism, we have chemical action, electricity, magnetism, heat, light and motion. But in the human body we have all these (and possibly other forces or modes of force of which we are at present ignorant), not acting in one definite direction, but contributing in the most complex manner to sustain that result of combined action which we call life; and so beautifully are all these inter-related, that, as Cuvier could pronounce upon the general characteristics of an animal from examining a single bone or piece of bone, the histologist may now, to some degree, and at no distant future may reasonably be expected to pronounce with tolerable certainty on the temperament and mental habitudes of a man from examining a portion of his skin—a new species of palmistry, founded on knowledge, and not on superstition.

An acquaintance with the motions, sensible and molecular, which the different forces produce in the human body, the means of stimulating them when torpid, of checking

them when too active, of apportioning them by diverting forces from one organ to another, as happens frequently without the physician's aid—what is all this but physical science? Medicines, I need not say here, give no life, though they may take it away; they only promote, arrest, or divert the action of different natural forces on different organs. They may cure the totality of the organic being by such diversion of force, or by destroying derived or parasitic vitality (fungoid growths, which detract from the general apportionment of force, or eat into vital organs); but they do not and cannot create force.

But far more than drugs can do is done by the eminent physicians of the present day in what I may term regulating the movements, internal and external, of the body, after they have, by improved skill in diagnosis, detected the causes of the excess, the deficiency, or the irregularity, of motion which produce the disease. Half the world, in the present day, are said to die of repletion, and half of inanition. It is not, however, mere quantity of food, but its nature and chemical action, which is better and will be better understood; food for repairing the structures; food for enabling them to go on with the varying movements; chemical force transformed into heat and motion, and adapted to habits and circumstances, to exercise and rest, to temperature and climate, to mental activity and sleep. So, with respiration, oxygen enters the lungs an element, and returns in carbonic acid; but in so doing it has enabled the lamp to burn; it has removed carbon that has done its work; it has kept up the involuntary and ministered to the voluntary motions.

Applied to the respiratory functions, chemistry might offer a field of inquiry not much trodden since Dr. Beddoes established the Pneumatic Institution at Bristol; not merely by inhalation of gases *per se*, but by a judicious admixture of small portions of given gases with the ordinary air. Thus a small increase of carbonic acid in the air tends to produce somnolence; might not this be carefully tried in cases of extreme nervous excitability and insomnia? Ozone, again, doubtless has its effect, probably of somewhat a converse character to that of carbonic acid. Such remedies might be free from the disturbing influence on other organs which the administration of sedatives or stimulants by the stomach frequently, always perhaps in degree, occasions.

I offer these crude suggestions rather as

illustrations of my argument than as having any founded reliance on their efficacy. Experiment alone can determine this.

As the engineer gives air, water and coal, to his engine in proportion, and only in proportion, to their expenditure, so should food, air and exercise be apportioned by the physician. The machine, or the part of it that is worn, should have rest and repose; the machine that is rusty should have work. I might suggest a hundred problems relating to the human economy which science alone can and will some day answer. What is the effect of phosphorus on the brain and tissues? Why, when administered, is it poisonous in one form, and innocuous in another? Why do some poisons affect the brain, others the heart, others the stomach? What are miasmata? Do infectious diseases result from a chemical state of the air, or from organic monads contained in it? What is the effect of light on health? Has the inhaled nitrogen of the air any, and what, effect on the organism of animals, &c.? How vast are the fields of inquiry! The dawn of science has even now scarcely succeeded to the darkness of empiricism. Individual and combined effort will, I trust, rapidly bring more light.

Not the least important branch of scientific education is, in my humble judgment, a practical acquaintance with instrumental manipulation. I speak not of the surgeon's appliances—those are an obvious necessity; but of an early familiarity with such agencies as electrolysis, blowpipe analysis, or, above all, the microscope. The first of these—electrolysis—offers a wide field of information to the student. The secondary compounds formed at the poles of a voltaic battery, particularly with organic substances, are most curious and instructive objects of investigation. Blowpipe analysis is also most useful, and the apparatus may always be at hand. As to the microscope, the physiologist's *vade mecum*, I need not insist on its value. More is learned in an hour by the study of one of these, well explained, than by months of reading. Manipulation, moreover, should be learned young; the hand and head thus learn reciprocally to aid each other.

A few words on hospitals. They are, in my judgment, the only charities for which I would not have a prohibitory law of mortmain, not suddenly, but gradually introduced. Mortuary endowments are apt to transmit and clothe with authority the errors of past times; they are apt to be the offspring of caprice or undue persuasion, so

likely to be uneconomically conducted. There are no living vigilant subscribers to scrutinize the application of their funds; and the reproach to a complainant is ever ready, "Why should you interfere? we are not dealing with your money." I cannot recognize the right or advantage of any man being able by a mere flourish of his pen at some particular period of his life, and that generally when his faculties are not in their best state, to dictate how men should act in a distant future, the requirements of which he cannot know, and when he himself would probably have entirely changed his views. Speaking for myself, I would, as a general rule, let the charities (I use the word in its wide legal acceptance) of the day be supported by the people of the day; but I incline to except hospitals for the sick, the infirm, and the deranged; because they are managed by the gratuitous services of medical men; because they afford help to those who most require and can least misuse it; because they are tied to no formulae, but call into action the most advanced knowledge of the day; because they form the most valuable school for the most valuable knowledge; and because (though this may be common to other charities) they require a permanent local habitation. My observations on endowments are not intended to apply to untrammelled gifts by living men. The test of parting with property, and giving up its enjoyment, by the living and healthy owner, is a tolerable security against some of the abuses I have indicated. The number of Peabodys, moreover, will never, probably, be excessive; but even their gifts should be subject to control, and the State should always have a power of direction and interference.

St. Mary's Hospital and School are, I believe, unendowed; so my words have no present application here; but, having often discussed the subject with eminent men, I take this opportunity of expressing my notions, though much more briefly than the subject demands.

The clock warns me that I must conclude. After delivering prizes, the gaining of which has depended solely on merit, I may be expected to end with the usual encouraging peroration, that industry and ability command success; but I cannot, except in a modified form, agree to this copybook maxim when applied to your future struggles with the world. Doubtless, few who are prudent, energetic, and industrious, fail to attain some fair degree of worldly success; but the race is not always to the swift, or the battle to the

strong. Circumstances affect efforts, promoting, arresting or diverting them. The road to success is often that which a high-minded man cannot travel; he cannot learn to fetch and carry, to subserve the interest of a patron or a mob. I do not seek to undervalue success; duty to yourselves and those whom you may bring into the world, enjoin its pursuit in moderation. But I would fain endeavor to inculcate upon my younger hearers a higher motive than the mere hope of fame, wealth, or power. If these come by an unswerving career, make good use of them; if not, console yourselves with the conviction that those who are said to be in power are frequently the veriest slaves in existence; that the improvement of our race is more promoted by those who think than by those who act; that some degree of martyrdom—not that which trumpets its sufferings, but silent, proud, unappreciated martyrdom—is commonly the lot of those whose labor tends most to advance mankind, for upon them rests the burden of opposing existing prejudices, and unsettling vested interests. Have courage to risk this. Your most noble profession offers the grandest field for human exertion—the widest scope for progressive improvement. To assuage human anguish, to restore the child to the parent, the husband to the wife; to convert despair into hope, and hope into fruition, will be often your lot; to see the least selfish parts of our common humanity, to teach how the individual, how society, may be regulated, so as to produce the greatest sources of happiness—sound minds in sound bodies—belongs to yours more than to any other calling. You will meet with hard rebuffs, but “in the reproof of chance lies the true proof of men.” Meet failure without repining, and success without exulting. Have but one rule of life, “Fais ce que je dois, advienne que pourra.”—*British Medical Journal*.

## Hospital Reports.

### BOSTON CITY HOSPITAL.

Surgical Cases in the Service of Dr. GEORGE DERRY.  
Reported by Mr. GEO. B. STEVENS, House-Surgeon.

**Amputation of Arm; Recovery.**—May 24. The patient, while engaged in shackling cars, had his right arm caught between the bunters. When brought to the hospital, the muscles were bared from elbow to wrist and much torn. There was a compound

and comminuted fracture of the radius at the middle of the shaft, and the lower fragment was cracked for two thirds of its length. On the under surface of the forearm was an opening communicating with the fracture. The hemorrhage had not been great, and the pulse was of fair strength.

The arm was amputated just above the elbow, by Dr. Derby, by the circular method. Ten ligatures. Sutures, cold compress and tight bandage as usual.

The discharge from the stump, at first watery, became thicker and most healthy. The sloughs which separated from the flaps were trifling, though at one time it looked as though extensive sloughing were to occur. Before the end of a fortnight the ligatures had all come away, and the patient was able to be up and out of doors. The union and contraction of the flaps continued, and five weeks after the operation he left the house with flaps perfectly united, except at one point.

**Amputation of Arm; Death from Exhaustion.**—July 16. The patient had his right arm caught in machinery, by which the integument of the forearm was stripped off, both bones much comminuted, and the muscles ground to a pulp. The hemorrhage had been very considerable before he was brought to the hospital, and the pulse was very feeble.

The limb was amputated just above the elbow, by the circular method; the amount of blood lost was not great. By stimulants exhibited by the mouth before the operation and by the rectum during its performance, the pulse was increased in strength.

After the operation it was doubtful if the patient would rally, but at the end of four hours (4, P.M.) reaction was established. Stimulants and liquid nourishment were administered at short intervals during the night. On the following morning the pulse was of good strength and not unduly excited. Through the day the patient was comfortable, and took nourishment well. About 6, P.M., however, the pulse had become rapid and feeble, and he was somewhat delirious. He was very freely stimulated through the night, but without avail; he gradually sank, and died at five o'clock on the following morning.

**Burn treated with Dry Earth.**—The patient entered with an extensive but superficial burn covering the right ankle, the dorsum and outer side of the left foot, the ankle and leg for some four inches above, produced by boiling water four days be-

fore. The true skin was very much reddened and painful; there was considerable discharge; some blebs.

Dry earth, finely powdered, was dusted from a dredging-box over the entire burned surface; it was applied at frequent intervals, whenever a moist spot showed itself. In a week's time the earth had absorbed the discharge completely, and formed a nearly impervious coating, so that but two applications a day were required. The pain had quite disappeared. This treatment was continued for three weeks, at the end of which time the scab formed by the earth was washed off. A fine cicatrix beneath appeared. For three days more, castor oil was applied, when the patient left the house with the ulcers nearly closed.

*Abscess over the Knee.*—A young woman entered the hospital with a large fluctuating tumor over the patella of the left knee. It was opened, and a large amount of laudable pus evacuated. Joint not affected. The discharge diminished and the incision healed. At the end of three weeks there was slight stiffness of the knee remaining, from her having kept her bed most of the time.

The case is interesting on account of the probable cause of the abscess. She had been tending in a baker's shop, and for a long time had been in the habit of striking the drawers and pushing them in with her left knee. These blows, long repeated, probably led to the formation of the pus.

*Multiple Abscesses.*—May 4. Mrs. T., æt. 40, entered on the medical side. Four weeks before entrance had chills and pains all over the body, not following any known exposure. Two weeks before entrance had pain and swelling in both ankles; the next morning the legs and the right forearm were somewhat swollen, with great pain in the joints. Two days before entrance, trouble began with right eye. When transferred to the surgical side, there were soft, fluctuating tumors at various points:—one on the ulnar side of the left forearm, just below the elbow; another over the styloid process of the ulna of the right arm, with a third corresponding in situation to the one upon the left arm; a fourth upon the left leg over the inner malleolus; and a fifth in the calf of the right leg. There was iridochoroiditis of the right eye. The patient was anæmic and correspondingly weak; had no pain, except in right eye, and this was aggravated at night. She was ordered six ounces of wine a day, and twenty drops of the tincture of the muriate of iron three times a day.

During the following four weeks all the

above abscesses were opened, those over the ankle and at the corresponding points on the two arms being incised on the two days following the patient's entrance. Those over the wrist and in the calf of the leg were at first quite small and appeared to diminish in size, so that there was some prospect of their disappearing without an opening. About four weeks after the patient's entrance, having increased in size, they were likewise opened. All the incisions thus made healed in a comparatively short time, with the exception of the one over the ankle, where pus burrowing among the muscles required several counter-openings. The trouble with the right eye went on to an abscess, which was evacuated through the ocular conjunctiva in about ten days. During the formation of this abscess the pain in the eye was excessive, relieved, however, by the spontaneous evacuation of the pus; the sight of the eye was lost.

While this extensive suppuration was going on at different points, the strength of the patient was kept up by the strongest and most nourishing food, with the wine and iron ordered at entrance; her appetite happily continued good throughout. June 24th, she was discharged, well.

*Compound Fracture of the Leg.*—April 7. F. N., a healthy young man, æt. 20, fell a distance of about ten feet, striking upon the right leg. He entered the hospital with a compound fracture of both bones of the leg at the junction of the middle and lower thirds. The upper fragment of the tibia protruded on the inner side of the limb to the extent of an inch, pinning the integument and muscle firmly beneath it. Very little hæmorrhage. Under ether, the fragments were brought into apposition without division of the soft parts, and the limb placed in a fracture box padded with sheets and oakum. The air in the wound was displaced with an aqueous solution of carbolic acid, of the strength of a drachm and a half of the acid to a pint of water. The wound was covered with lint soaked in a mixture of carbolic acid and castor oil, one part of the former to twenty of the latter. The oakum of the fracture box to be kept saturated with the above aqueous solution of carbolic acid.

At the end of one week the strength of the carbolic acid and castor oil was increased to one part in five. During the three weeks following the injury the constitutional disturbance was trifling. At the end of this time the wound was examined, and found to contain not more than a drachm of

pus and to be filled with healthy granulations. The limb was continued in the fracture box and dressed with simple cerate.

May 5, four weeks after the accident, an abscess had formed on the outer side of the compound opening, and was freely laid open. Union of the fracture had been going on well. During the three weeks that carbolic acid was used the amount of suppuration was almost nothing. Suppuration continued to be abundant for six weeks after its discontinuance; the discharge from the compound opening was very free; abscesses which formed in the vicinity were closely followed with the knife. Ten weeks after the accident the discharge from the original wound and from the incisions had much diminished; the ulcers, which were granulating well, were strapped. Up to this time the leg had been continued in the fracture-box, with the exception of a short time, when a carved outside splint was employed. Dry bran was used for a few days in the fracture-box while the discharge was profuse.

July 14, patient discharged; ulcers had all healed, and the union was firm, so that the limb could support the weight of the body.

During his confinement to bed, the general condition of the patient was all that could be desired, and no drugs were used, except an occasional cathartic.

this volume has therefore been looked for with general interest, that others, mastering the details of so convincing an exposition, might learn from its author how to convert the reduction of any dislocated hip from an ordeal, terrible alike to surgeon and patient, into a process, gentle, rapid and unfailling.

The great work of Sir Astley Cooper, the last edition of which appeared in 1842, first introduced order into the chaotic subject of dislocations and fractures of the hip, and still holds the place it owed to his large experience and high professional position. Malgaigne, in a treatise published in 1855, replete with the erudition of its learned author, undertook, by accurate and exhaustive analysis of cases, and by experimental observation, to construct more tenable theories than had yet been put forward. Hamilton in our own country, and Gürtl in Germany, successfully carried out a similar and even more elaborate enterprise. But, with the exception of the employment of anaesthesia, first applied to these cases by the late Dr. Samuel Parkman, of Boston, no practical advance in the treatment of luxations of the hip has been introduced into general use since the time of Cooper; for reduction by manipulation, old as the art of medicine, although revived in modern times, is not at the present day generally adopted. Pulleys and dynamometers still figure in the pages of medical journals, and patients have been pulled upon within the year, in Paris and in London, until life was threatened, when putting in their hips ought to have been the work of but a moment.

Dr. Bigelow's doctrines hinge upon the recognition of a great anatomical fact connected with the structure of the capsule of the hip-joint, from which, as a fundamental proposition, two corollaries are drawn, viz.:

I. That the position of the limb in all the regular dislocations is due to the capsule alone, and that neither the muscles (the obturator internus excepted), nor the peculiar contour of the pelvic bones, nor the ischiatic notch, need be considered in reduction.

II. That, keeping in mind certain peculiarities of the capsule, the reduction of any dislocation can be readily and methodically accomplished, without pulleys; and that by these peculiarities alone are the phenomena of reduction capable of being explained.

## Bibliographical Notices.

*The Mechanism of Dislocation and Fracture of the Hip, with the Reduction of the Dislocations by the Flexion Method.* By HENRY J. BIGELOW, M.D., Professor of Surgery and Clinical Surgery in the Medical School of Harvard University, &c. Philadelphia: Henry C. Lea. 1869. pp. 148.

THE Medical Profession in this vicinity has long been familiar with the original researches of Dr. H. J. Bigelow in regard to Dislocations of the Hip. Apart from his annual lectures to the large medical classes of Harvard University, several public demonstrations of his views have been made by him at different times, particularly before the Boston Society for Medical Improvement in 1861; the Massachusetts Medical Society in 1864, and the American Medical Association in 1865. The publication of

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The capsular ligament of the hip-joint, so frequently and easily dissected, seemingly so simple in its anatomy, contains, nevertheless, within itself the secret mechanism of all the hip dislocations. Let us quote from Dr. Bigelow his description of this essential starting point.

"The ilio-femoral ligament has been usually described as re-enforcing the capsule by a single fibrous band, extending from the inferior iliac spine to the inner extremity of the anterior inter-trochanteric line and playing no very important part in health or injury. But it will be found, upon examination, to take its origin from the anterior inferior spinous process of the ilium, and to be inserted fan-shaped into nearly the whole of the oblique 'spiral' line which connects the two trochanters in front—being about half an inch wide at its upper, or iliac origin, and but little less than two inches and a half wide at its fan-like femoral insertion. Here it is bifurcated, having two principal fasciculi, one being inserted into the upper extremity of the anterior inter-trochanteric line, and the other into the lower part of the same line, about half an inch in front of the small trochanter. The ligament thus resembles an inverted Y, which suggests a short and convenient name for it.

"The divergent branches of the Y ligament are sometimes well developed, with scarcely any intervening membrane. In other cases the intermediate tissue is thicker and requires to be slit or removed before the bands are distinctly defined, and sometimes the whole triangle is of nearly uniform thickness." (pp. 17, 18.)

Winslow and the brothers Weber did not allow this feature of the capsular ligament to escape them, and Weitbrecht (1743), a principal authority on the ligaments, distinctly specifies the forked arrangement of the anterior part of the capsule, and speaks of it in the following terms: "*Partim anteriùs versus collum femoris et trochanterem minorem procedit, partim vero lateraliter versus exteriora progreditur et circa radicem trochanteris majoris in tuberculo laterali terminatur. Atque binæ hæc divaricationes, una cum linea obliqua, figuram triangularem constituunt.*" But so far as modern anatomical works are concerned this intrinsic point passes unmentioned, or, under the guise of the ilio-femoral ligament, is so inadequately set forth, that its importance has in no degree been recognized.

Dr. Bigelow's first deduction, viz., that,

apart from the obturator internus muscle, the capsule alone (and chiefly the Y ligament) is the agent which gives its characteristic deformity to every dislocation of the hip, and hinders the reduction, is an original one, at least in its positive and absolute assertion. So recently as 1865, in a discussion upon femoral luxation, the remark passed unchallenged at the Société de Chirurgie that "obstacles due to other causes than muscular contraction were chimerical;" and although Boyer, Gunn and others have assumed that the capsule was a controlling influence, they either loosely stated it as a fact, or claimed it in a general way for any part of the capsule, or recognized it only in a single one of the many dislocations. No writer has heretofore realized that upon the anterior portion of the capsular ligament, that part here designated as the Y ligament, depends the entire mechanism of all regular dislocations. Our author states his case as follows:—

"Without denying that muscular fibre exerts both an active and a passive force, it is here assumed that the muscles play but a subordinate and occasional part in hindering reduction, or in determining the character of the deformity, and that this is chiefly due to the resistance of a ligament whose simple mechanism will explain the phenomena both of luxation and its reduction. The theory advanced recognizes the anterior portion of the capsular ligament as the exponent of the total agency of the capsule in giving position to the dislocated limb, and what is more important, as so identified with the phenomena of luxation that reduction must be accomplished almost wholly with reference to it." (pp. 16, 17.)

The varying attitudes of the limb in the different luxations depend upon the integrity of this ligament, or of one or the other of its branches; both limiting the degree of extension, while the external also restricts eversion. The situations taken by the head of the bone, due to the position of the femur at the time of the injury, or to the direction of the dislocating force, are all controlled within a certain range by its powerful fibres, the strength of which is such, as is conceded by anatomists and demonstrated by the author's experiments (p. 19), that an entire rupture occurs only under extraordinary circumstances.

To show how great is the variety of dislocations explained, and explained only, by the action of the Y ligament, we quote Dr. Bigelow's classification of these injuries.

"I. The REGULAR DISLOCATIONS, in which one or both branches of the Y ligament remain unbroken.

1. Dorsal.
2. Dorsal below the tendon. (Ischiatic notch of Cooper.)
3. Thyroid and downward.  
*Obliquely inward on the thyroid foramen, or as far as the Perineum.*  
*Vertically downward.*  
*Obliquely outward as far as the Tuberosity.*
4. Pubic and Sub-spinous.
5. Anterior Oblique.
6. Supra Spinous, } *External branch*  
 7. Everted Dorsal, } *broken.*

Both branches entire.

"II. The IRREGULAR DISLOCATIONS, in which the Y ligament is wholly ruptured, and whose characteristic signs are therefore uncertain." (p. 27.)

Under these heads all recorded forms of dislocation find their place. Several have heretofore been considered anomalous and irreducible and are of infrequent occurrence in practice, but each and all can be produced at will and are instantly reducible on the dead subject.

All of the above-named dislocations are reducible by "manipulation," or, as more correctly designated by the author, "the flexion method," the principal feature of which consists in the flexion of the limb, thereby relaxing the Y ligament, a procedure the very opposite of that inculcated by Sir Astley Cooper, by whose process of extension in the axis of the body, with pulleys, &c., to which, unhappily, the authority of his name has given a currency the world over, this ligament was brought into the line of its greatest resistance.

Reduction by manipulation is sometimes called the "American method," for it is not a common practice in England or France. Dr. Nathan R. Smith, in 1831, explicitly describes the process of "free flexion, outward rotation and abduction," as practised by his father many years before. The same thing was described in France by Despres in 1835. In 1852 it was also advocated by Dr. W. W. Reid, of Rochester, N. Y., as applicable to dorsal dislocation only; but as Dr. Bigelow remarks, "these and other advocates of the flexion method in this country and abroad were anticipated by Hippocrates, so far as the essential principle of flexion is concerned." (p. 30.)

In all previous comments upon this method of reduction, we are struck by the want of success in any attempt to eliminate from the process a governing principle, or

to determine why every now and then it utterly failed, and only succeeded in the simplest form of dislocation. In England the question has been avoided by the subterfuge of considering it a "knack." The rule "lift up, bend out, roll in," triumphs over the obstacle in one case, in the next it is utterly defeated and a diminished degree of flexion, or some other varying manoeuvre, overcomes the difficulty. In spite of the diligent study of dislocations on the dorsum and their reduction by a ready method, and the fact that occasionally some of the other varieties are reduced by the process, no general law has been hinted at. While Astley Cooper, Nathan Smith and Reid looked to the muscles as a sole source of resistance, most later writers have evaded the inquiry altogether. Such careful observers as Gunn, Busch and Tillaux, who have come so near the point and yet not reached it, bewildered by the intricate maze which the tissues about a dislocated hip present when laid open by a dissection, have been able only to make out that it was the "remaining capsule" which hindered reduction, and have failed to discover that flexion, even in the restricted range hitherto conceded to it, was successful, because it relaxed the Y ligament.

It recalls the rack and the inquisition to contemplate in the writings of Cooper and others the severe means adopted to overcome the resistance of this ligament. A single illustration is worth recalling as a curiosity.

"On the day of the accident two attempts were made to reduce the dislocation by pulleys, but without success; three days later a third equally unsuccessful was made, although continued for nearly an hour. At the end of another three days, when two pounds of blood had been taken and he had been nauseated by two grains of tartarized antimony, extension was made with the pulleys for an hour and a half, during which time he took two grains more of tartarized antimony. The attempts, however, did not succeed." (COOPER, Case L.)

Contrast this with the simple process, assuredly a genuine *méthode de douceur*, by which the head of the bone may be replaced in its socket by a single slow movement of "from a quarter to half a minute, or a single rapid sweep of two seconds." (p. 50.)

It is not to be supposed that all obstacles to reduction are overcome by simple flexion. There is a procedure described by Dr. Bigelow, called "Enlarging the Capsular Orifice," which, while it certainly has never before been suggested, is evidently, unlike many

new things, an innovation of great value. After alluding to the alleged difficulty of replacing the head of the bone when it has escaped by a small aperture in the capsule, and to the advice given by Malgaigne, Gunn and others to place the bone "in the position it occupied when luxated, with a view to its re-entering the socket by exactly retracing its path," the author goes on to say:—"But while this path cannot always be known, any difficulty is easily obviated by carrying the head of the bone toward the opposite side of the socket and thus enlarging the slit; a simple manœuvre, easily accomplished by circumducting the flexed thigh across the abdomen in a direction opposite to that in which it is desired to lead the head of the bone. This expedient, of which I have had occasion to avail myself, will, as I believe, be in future generally adopted, when any such difficulty is encountered in reducing the hip. The subcutaneous injury is trifling, in comparison with that resulting from a protracted and ill-planned manipulation, or from the brute force of 'pulleys.'" Infinitely less so at all events than the hazardous expedient of Reid for accomplishing the same end, "to make an incision down to the head of the bone and open the capsular ligament sufficiently to admit the return of the head into its place." (p. 34.)

According to Dr. Bigelow the dislocation upon the dorsum has a range of position from the tuberosity of the ischium to the hollow of the ilium, varying with the extent to which the rotator muscles or the capsule are ruptured by the injury, the different paths by which the head of the bone may make its way between these muscles, or the effect produced by efforts at reduction with pulleys. The so called ischiatic dislocation is therefore only a variety of dorsal dislocation, and owes its peculiarity, viz., a little more flexion and inversion, solely and entirely to the resistance caused by the tendon of the obturator internus muscle, below which the neck of the femur is caught; hence the name applied by Dr. Bigelow, "Dorsal below the tendon."

The dislocation upon the sciatic notch it will be remembered has always been an object of surgical despair. Sir Astley Cooper declared that the "reduction of this dislocation is in general extremely difficult," and gives cases in which he failed to accomplish it. Mr. Syme speaks of the risk of dorsal dislocations becoming sciatic, and in a work so recent as Holmes's Surgery it is remarked "that, in our attempts to reduce a dislocation upwards (on the dorsum), the

head of the bone may slip into the sciatic notch, there is abundant evidence." Dr. Bigelow, on the contrary, says, "I believe that no dislocation upon the ischiatic notch is worthy of the name—that no satisfactory or practical result can be based upon this distinction alone—and that it is also an error to suppose that during reduction the femur ever notably 'slips into the sciatic notch,' or that the sciatic notch ever offers any obstacle to its reduction." (p. 59.) The part which the obturator muscle plays, combined with the Y ligament, as an obstacle to reduction in this form of dislocation (dorsal below the tendon), and the absolute necessity of flexion to accomplish reduction, are elaborately explained at pp. 65-66 and by the accompanying illustrations. We regret that space does not permit us to quote from them at length.

The dorsal and so-called sciatic dislocations are undoubtedly the most common varieties. Of the thyroid and downward dislocations, which the author divides into four kinds, he says:—"These dislocations, if we except that upon the thyroid foramen, are comparatively rare. In view of the frequency of accidents dislocating the bone while flexed or abducted, the rarity may be explained by the readiness with which the extreme downward luxations are converted into those upon the thyroid foramen or the dorsum." (p. 70.) How this tendency is controlled is shown as follows. "When the thigh is thus strongly flexed, it is easy to imagine that the head of the femur, suspended by the Y ligament beneath the lower margin of the socket, pauses there, hesitating between the thyroid and the dorsal luxations. It has been found at various points in the interval between these luxations, and directed into one or the other in attempts to reduce it." (p. 75.) The convertibility of the common dislocations one into the other by virtue of the Y ligament, which holds the femur as the yard of a derrick is held by its tackle, and upon which as a central axis the limb is swung in different directions, is a point of interest very strikingly set forth.

The description of the "pubic" and "sub-spinous," luxations, and of the "anterior oblique" luxation, which is a variety of the supra-spinous, completes the account of those which owe their anatomical features to the unruptured Y ligament.

The "supra-spinous" luxation, in which the head of the femur gets hooked over the Y ligament and cannot be reduced except by being unhooked, and the "everted dorsal," in which the limb may be everted at

various angles, only occur when the external branch of the ligament is ruptured. Both these dislocations, together with the anterior oblique, here so clearly explained, are classed by Cooper, Malgaigne, Hamilton and others, as anomalous forms. Dr. Bigelow remarks that although rupture of the outer fasciculus of the Y ligament deprives the operator of a part of the advantage of rotation, yet the limb, after flexion and rotation inward, may be readily reduced by direct traction towards the socket with local guidance.

In all the regular dislocations the position of the head of the bone may be determined by the direction in which the internal condyle faces. In this hint we find one of many evidences of the familiarity of the author's own mind with the subjects of this volume, which he modestly terms a "paper." This is better shown perhaps in his description of the methods for reducing pubic and thyroid dislocations, five of the first of which and ten of the second are given; all of them being based on one theory, and by no means random rules for the accomplishment of the purpose aimed at. It requires a little study to detect a governing principle, but attention shows that it exists in all of them, and that a clear appreciation of it might suggest to the mind of the reader the various expedients so elaborately detailed.

When the Y ligament is entirely ruptured the dislocations which ensue are termed "irregular," because the head of the bone is no longer controlled in a uniform manner. "It has been shown," says Dr. Bigelow, "that the position of the great majority of dislocations is determined by this ligament; and until it is likewise shown, that, when it is broken, the luxated limb will be compelled, in obedience to other mechanical influences, muscular or capsular, to assume positions equally constant, it is fair to consider such luxations as irregular. When any mechanism shall be shown always to give to a luxated limb, after the Y ligament has been torn asunder, the same position under the same circumstances, the luxation may be withdrawn from the present category, and classed as regular." (pp. 102, 103.) The reduction of these luxations, no longer possible by a manipulation depending upon this ligament, must be effected by direct traction, the obstacle to which has ceased to exist, and by local guidance of the displaced head of the bone into the acetabulum.

A discussion of the reduction of "old dislocations," "dislocations from hip disease,"

complete and occurring spontaneously (Dr. Bigelow having first in the U. S. [Feb. 21, 1852] in a case of the latter variety, excised the head of the femur), "dislocation with fracture of the shaft of the femur," and "spontaneous luxation," of which three cases not before published are reported, and "angularextension," complete the principal part of the book under review. The last-named title has reference to a powerful and ingenious apparatus by which extension by pulleys and powerful rotation by levers may be applied to a limb in the flexed position. Dr. Bigelow says, "Although the need of this apparatus may be rare, it will prove occasionally efficient in reducing a luxation of long standing or complicated with fracture. At any rate I cannot believe that the period is remote when longitudinal extension by pulleys to reduce a hip luxation will be utterly repudiated." (p. 117.) It might certainly have advantageously supplanted "Jarvis's Adjuster" in the case of old luxation treated by M. Broca, followed by fatal peritonitis, which last year gave rise to an important discussion in the *Société de Chirurgie*.

We have scarcely left ourselves any space in which to notice the second part of this volume, which treats particularly of fractures of the neck of the thigh bone. Dr. Bigelow's original observations in regard to impacted fracture of the cervix, its mechanism and the anatomical structure of the neck of the femur, are as novel and quite as interesting as those on dislocations. The eversion and shortening of a regular impacted fracture are due to the fact that "the posterior and thin wall [of the cervix] is alone impacted, while the thick anterior wall, refusing to be driven in, yields only as a hinge, upon which the shaft rotates to allow the posterior impaction." (p. 121.) And this arrangement is explained by the disposition of the bony tissues and the continuance of the true neck of the femur beneath the posterior inter-trochanteric ridge. We can hardly believe that an anatomical point so obvious as this, has hitherto escaped notice, and that it was left to the present paper to first demonstrate both its existence and its application.

The occurrence of bony union within the capsule from the impaction of the neck of the femur into the head of the bone, of which two fine illustrations are given, the irrelevancy of the distinction of fractures of the cervix into intra- and extra-capsular varieties, and the occasional anomaly of a fractured cervix with inversion of the foot,

are here noticed, the fact of their occurrence is confirmed, and their mechanism is explained, at least under some of the circumstances in which they occur, by cases of emphatic and unusual interest.

The subject of fracture of the hip is concluded by a unique case of "crack in the neck of the femur," detaching the head "except at a narrow isthmus in front." (p. 136.)

A chapter on "fractured pelvis," includes cases of "fracture of the rim of the acetabulum," "fractures in which the head of the bone is driven through the acetabulum," and of "asserted fractures of the acetabulum without crepitus, from a supposed impossibility of keeping the bone in place." Under the first named heading an important confirmatory case is narrated in which a fracture of the acetabulum detached the upper insertion of the Y ligament. It may also be observed that a new and important method is here suggested (more particularly described at p. 109), of keeping in place dislocations heretofore supposed irreducible, or rather impossible to keep reduced. This consists, briefly, in maintaining the femur in the position of the final manœuvre which reduced it.

The analytical notice with which we have furnished our readers hardly conveys a just idea of this remarkable book, for its concise style leaves but little opportunity for further abbreviation.

No higher praise can be awarded to Dr. Bigelow's treatise than to regard it as a successful attempt to bring under one system of explanation all the irregular and exceptional or anomalous cases of dislocation of the hip scattered through medical literature. Nothing can be more satisfactory or conclusive than the manner in which these are deciphered and cleared from their obscurity by the simple intervention of the Y ligament. It may safely be claimed that until the appearance of this volume there was not to be found in the entire range of surgical writings any generalization of these facts; and it may therefore be said, without exaggeration, that this monograph is the most original, important and exhaustive contribution to civil Surgery which has been produced on this side of the Atlantic.

We should do an injustice if we did not invite attention to the mechanical execution of this volume, and especially to the woodcuts, fifty-two in number, with which it is illustrated, and which, with the exception of five, have been drawn from recent photographs, and are now presented for the first time. So large a number of original figures

is rare in American publications, and their excellence betrays the artist in the author as well as the engraver.

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## Medical and Surgical Journal.

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### THE PART PERFORMED BY NATURE AND TIME IN THE CURE OF DISEASES.

(Concluded from page 45.)

In these dissertations the ground proposed to be occupied has been admirably well-covered; and on the affirmative side, of the question of the "part performed by nature and time in the cure of diseases." We by no means intend to oppose their main positions, but offer some further comments from our humble point of view.

Diversity in therapeutics is made much use of as an argument to show the nugatory effect of the remedies in vogue. Thus in yellow fever and cholera a variety of modes of treatment, some of them quite opposed to each other, have had their earnest advocates. As the proportion of deaths in both these diseases continues large, whatever treatment be employed, it is fairly argued that no remedial measures yet discovered can have much effect in staying the progress of either malady. But, it is the fashion to cite rheumatism as another test disease, which in the same way evinces the inefficacy of remedies. And, when we read Dr. Hibberd's quotation from Stillé, recording forty different drugs recommended for that disease, and run the eye over the list of numerous outward applications mentioned as specifics for it, it would seem, at first sight, that the case is fully made out; and that it places us in a position to admit the wit of the London surgeon, who on being asked what would cure rheumatism, replied "six weeks." Unfortunately, however (or rather fortunately), as this statement is apt to be understood—i. e., that rheumatism must necessarily run six weeks—it is not accurate. We see the disease get well in a fortnight, or a few days. This fact, coupled with the misunderstanding alluded to, we



suspect has had something to do with the gratulations of practitioners over the assumption that they have cured rheumatism by their favorite modes of treatment. The truth is there are two sides to this question, and we think that the malady is not happily chosen, as a test in the general discussion. Ask some of our best pathologists what rheumatism is, and they will answer they do not know. They can tell you something about the nature of Bright's disease, when it is under way, at all events; that the patient is poisoned by urea in the blood, and that the disorder has its seat in the kidneys. But, though there have been theories that rheumatism consists essentially in the abnormal development of a certain acid, this, we believe, has not been proved to be always the fact. And, there are those who assume that it is a Protean malady, appearing under different phases in different individuals. It has also been contended that a certain diversity of therapeutics is legitimate and logical in the affection; that a remedy which does not suit one patient may and does help another. This, as an assertion, has as good a right to stand until disproved, as the opposite one that no medication is of any avail in the disorder.

We rather think it will be generally admitted that one of the phenomena of rheumatism—pain—is abated by different applications in different cases. Thus, one person is relieved of it by cold wet packing, partial or entire. Another is made worse by this, but has his sufferings mitigated by applications of warm or hot water. Then again, the sudden cessation of the disease occasionally upon the employment of certain active remedies brings the *post hoc ergo propter hoc* argument down with such force that some mental constitutions can hardly resist it. For instance, we remember a young, vigorous working man of sanguine temperament, who had been fully in the gripe of general acute rheumatism for some days. In the space of about two days we brought him so completely under the influence of colchicum that he was seized with violent emesis and catharsis, under the influence of which he fainted away, and was thought by his attendants to be dying. At the end of twelve hours, the *dolor, ru-*

*bor, calor, and tumor* were gone; and all that remained of illness was a rapid convalescence. We should not care to repeat this experiment; but we do believe that the colchicum here carried off the disease, while it fortunately did not carry off the patient also. We once had similar good fortune with another remedial measure. The patient was a female, young and strong. "Dorsal decubitus" for some two or three days, with general acute rheumatism. Vapor bath prescribed in the evening. The next morning none of the disease left. Speedy return to activity. Yet when we went full of zeal to our next patient similarly affected, to try the same therapeutic expedient, we met with that disappointment which so often awaits the young and ardent practitioner.

If something definite be not learned about the treatment of the disease in question, it will not be because there are not a large number of acute observers working hard at the subject. But, meanwhile, we return to our original proposition that rheumatism does not make a good test case in the discussion of therapeutic efficacy.

The nature of disease is largely discussed in the dissertations before us. And the fashionable dogma—disease is not a separate entity—is ably maintained in them. As the bad passions are argued to be only perversions of healthy sentiments, so pathological conditions are declared to be only perversions of physiological action. Says Dr. Ellis—in an address to the Medical School of Harvard University—"Sensation must be accepted as an inexplicable phenomenon. Will any one undertake to prove that pain is something entirely distinct from it? They are as intimately allied as motion, heat and light." Dr. Hibberd says pathological activity is but a diminution, an excess or a distortion of physiological activity. The old-time notion, we would add, that disease is, as it were, a toxic element introduced into the system, which nature and art are called upon to eliminate, as a foreign body is thrown off—that idea is repudiated. The theory of to-day fully carried out would seem to be embodied in the statement—*disease is perverted function.*

Nosology has been of vast service in

grouping together certain sets of morbid phenomena, and distinguishing them from others, for purposes of diagnosis, and—we say it under our breath—for treatment. But such classification has had the disadvantage of blinding us to the facts that various diseases shade off from each other by insensible gradations, and diverge in the same way from health. We welcome, therefore, the current explanation of the nature of disease, as decomposing some prevalent fallacies, and setting free our ideas to take a broader range than before. We must beware, however, lest in crystalizing, the latter engage something of error in their substance. The statement—disease is perverted function—covers an exceedingly large share of pathological phenomena—as such; that is, as morbid action manifested to our observation. What we know of inflammation, of fevers, of the exanthemata and so on, over a long catalogue, comes very well under this denomination. Dr. Ellis has well shown, too, that structural diseases, such as outgrowths, consisting, as they do, of the ordinary materials of the body—but in a wrong place—are to be regarded as the result of perverted function. But, is the above mentioned formula an exhaustive statement of what is meant by disease? Was there not this underlying truth to the old fallacy of regarding disease as an entity, that the idea of it is not restricted to its objective or subjective manifestations, but comprehends the primary pathological fault, which causes the functions to be performed pathologically instead of physiologically? As has been finely shown by Dr. Hibberd, the physiological functions are set in operation by healthy stimuli, and pathological functions by morbid stimuli. The morbid stimulus was, we think, included in the idea formerly held of the subject, and hence the habit of regarding disease as an entity.

It so happens that the morbid stimulus is very often hidden from us; and, therefore, it is well that in defining disease, this fact should be put in relief, and that in classifying the various forms of it we should keep in view that we are merely arranging in our minds certain manifestations of it—or, in other words, what we know of pathological function. An artificial system

serves a good purpose until we can get at the central facts of the economy of nature.

There was, and is, a certain cutaneous eruption, affecting by election certain parts of the body, as the flexures of the fingers. It is first vesicular, then pustular; is attended with surrounding inflammation and intense itching; is contagious and chronic. Knowing it so far, it is perverted function, and we call it scabies. But, we discover that all these morbid phenomena are produced by the burrowing of a parasitic insect—the *acarus scabiei*—and we have got hold of a real entity. That entity we destroy by the drug sulphur, and we have cured a disease.

Let  $x$  represent the morbid stimulus; and our definition of disease would be  $x +$  perverted function. Now for one disease we have a term which includes both factors—the morbid manifestations and the entity which causes them. That disease is trichinosis. We are not without hope that in course of time a new nomenclature will be found appropriate for many diseases—now known only clinically by their symptoms, and treated empirically—for the reason that their morbid stimuli, their essential pathological fault, will have been discovered.

The existence of the *vis medicatrix naturee* is now justly repudiated by thinkers and writers, in so far as that term has been interpreted to mean a separate element lying latent in the system, and waiting for disease to call it into activity.\* But, as Dr. Spare says in his dissertation, discard *medicatrix* as pleonastic, and translate *vis naturee*, the tendency of nature, and we have a statement which recommends itself to the acceptance of all. Thus, as is the case with most maxims of long and wide prevalence, there is truth wrapped up in this much misapplied formula, just as there seems to be in or behind the notion that disease is an entity. Thought in its march often seems to travel round in the direction of its starting point; but it does not really proceed in a circle. It follows an ascending spiral, traversing continually higher and higher planes, and widening as it mounts.

\* This is well put in "Disease a Part of the Plan of Creation." Mass. Med. Soc. Com., 1865.

DISLOCATION AND FRACTURE OF THE HIP.

It is with much pride that we issue this number of the JOURNAL, containing a bibliographical notice of the work of Dr. Henry J. Bigelow on Dislocation and Fracture of the Hip.

The fertile originality of Dr. Bigelow has struck out various new paths, and has now, as we believe, opened up an epoch in surgery. His philosophy of dislocation of the hip-joint will assuredly remodel the whole treatment of that formidable lesion to the immense benefit of humanity. The rude pulley mechanism of Sir Astley Cooper—so long dominant—will now give place to gentle and sure manipulations, generalized into a system applicable to all luxations of the head of the femur.

That an entirely erroneous impression still prevails as to the influences which control the dislocated bone in luxation of the hip, and also in regard to the mechanism of reduction by the flexion method, happens to be strikingly exhibited in Mr. Nunneley's learned "Address on Surgery," read before the British Medical Association at Leeds on the 30th of last month. The vague obscurity and misconception which is revealed in the following extract needs the daylight of Dr. Bigelow's conclusive demonstrations. Mr. Nunneley says:—

"The successful performance of reduction by manipulation mainly depends upon two things.

I. Our anatomical knowledge, enabling us to place the bones and muscles in the most advantageous position; and

II. On bringing the muscles into a proper condition, in which they shall have neither too much nor too little power of action, for either state will prevent success. If this action be too great, then resistance cannot be overcome; on the other hand, if it be entirely suspended, the head of the bone will not be drawn into or maintained in its natural cavity. Hence the anæsthetic should only be carried far enough to suspend volition and spasmodic action, leaving some little power of perception and contraction. When in this semi-passive condition, the limb should be firmly seized, put into gentle rotatory motion in such a direction as our knowledge of the attachment of its muscles tells us, when they act, will cause them to draw the head of the bone towards its socket, and then by a sud-

den and more forcible action, they are roused into a quick contraction, by which the bone is partly thrown and partly pulled into its socket."

The sentence has just been formally uttered in a contemporaneous journal, which, while it accords to American surgery the best operative skill, and the largest inventive talent, yet places us behind the Old World as discoverers and organizers. It looks very much as if while that sentence was being penned the work was in press which was to be the corner-stone of a new structure of surgical science in America, competing with European authorities on their own field of special excellence. If we are correct in our surmise, that corner-stone is now laid by Dr. Bigelow in Boston—the birth-place of etherization, the introduction of which he did so much to foster and extend.

REJOINDER OF DR. BEACH TO THE LETTERS OF DR. REYNOLDS AND DR. TREADWELL.

AFTER a careful review of the assertions and evidence adduced in their support, contained in the reply of Dr. T. to my "comments on a case of uterine displacement," I cannot admit that their apparent relevancy increases the strength of the testimony advanced by Reynolds in support of his theory. Dr. T.'s opinions may be expressed in eight propositions, as follows:—

1. That the case was one of Graves's disease.

2. That the existing uterine lesion was the cause of the main symptoms (bronchocele, prominence of the eyeballs and inordinate action of the heart).

3. That "it can hardly be denied that all of these symptoms in the present case may not have been produced by the uterine lesion."

4. That "it might naturally be expected that all of the symptoms belonging to this disease might be produced by pathological conditions of the uterus acting as a source of irritation to the sympathetic system, and indeed such cases have been observed and recorded."

5. That "Trousseau and other writers consider Graves's disease as belonging among the functional affections of the nervous system, or the neuroses."

6. That "Trousseau gives two cases in which the suppression of the menstrual fluid was intimately connected and seems to have stood in a causative relation to the development of the disease in question."

7. That "the same author relates another case in which suppression of the menses was the exciting cause of this disease."

8. That "the fact that the uterine lesion preceded the development of the symptoms of Graves's disease, and the additional fact that the latter subsided as the uterine troubles were relieved, show that the theory of the uterine lesion standing in the relation of a cause to the main symptoms (bronchocele, prominence of the eyeballs and inordinate action of the heart), is perfectly tenable and correct." In defence of the above he makes the following quotations.

1. "Bearing in mind," says Dr. Gilbert d'Hercourt in his relation of the case, "that all the relapses of Mrs. B. had been preceded by a diminution or a complete suppression of the catamenia, he decided on carrying out the hydropathic treatment in such a way as to bring on congestion of the uterus, and thus produce a healthy revulsion. \* \* \* In 1859, in the month of June, she had another relapse, or rather a fresh paroxysm, preceded by suppression of the menses."

2. Trousseau "dwells" upon "the necessity of reëstablishing menstruation," considering it "an important therapeutic indication."\*

3. "It" (exophthalmic goitre) "coëxists with wasting discharges, or supervenes upon them; such as leucorrhœa, menorrhagia in females, and hæmorrhoids in males."†

4. "The well-known connection which exists between the uterine functions of the female and the development of the thyroid gland observed at puberty, renders this affection worthy of attention, particularly when we find it so closely related by sympathy to those palpitations of the heart which are of so frequent occurrence in hysterical and nervous females."‡

To propositions one and five I agree with Dr. T. *Prop. 6.*—The fact that the uterine lesion seemed to stand in a causative relation does not prove that it did, although it might have coëxisted with the other symptoms. Trousseau does report such cases, but in none of them does he state positively and without reservation that it was a cause. *Prop. 7.*—It is not stated by Trousseau, in the description of this case, that the suppression of the menses was a cause. The

next point to be considered is if the remaining propositions are supported by the quotations.

*Quotation 1.*—The case is cited by Trousseau to illustrate the value of hydropathy in the treatment of exophthalmic goitre, and speaks of it in connection with bleeding and digitalis, but not to direct especial attention to a pathological condition of the uterus as being a cause, although they coëxisted.

*Quotation 2.*—He does, but with other therapeutic agents and the following prefix:—"Now is perhaps the best time for dwelling on the therapeutical indications and for analyzing the reasons which make certain measures successful in the treatment of this complaint. I will be brief, and will merely remind you that bleeding and revulsive applications to the extremities are employed against the congestion of the thyroid gland, avert the cause of asphyxia, while digitalis quiets palpitation, diminishes the frequency of the cardiac and arterial pulsations, and the hydropathic treatment offers the twofold advantage of causing a violent revulsion to the skin and of rendering innervation and nutrition more perfect"; and this additional:—"It would be bad medicine to try anyhow and at all times to bring back menstruation."\*

*Quotations 3 and 4.*—These statements do not contradict the conclusion of Trousseau when he classifies amenorrhœa and disturbed menstruation among the symptoms of Graves's disease.† In conclusion, I make some additional quotations in the belief that they, with the preceding analysis of Dr. T.'s evidence, are adequate to establish the doubt already expressed, of the theory involved in proposition 8; Trousseau, in speaking of disordered menstruation and digestion, nervous irritability, and emaciation, with some other symptoms, says, "These premonitory symptoms may extend over several months or years, and sooner or later the three prominent symptoms of Graves's disease show themselves, setting all previous doubts at rest as to the nature of the symptoms."‡ In regard to disturbed menstruation being a cause, a case is cited where the patient "was violently moved on finding out that she had been right in suspecting that her husband was unfaithful to her."§ The three prominent symptoms of Graves's disease soon followed, and although he gives a case where fright was the cause, and cites Stokes and

\* Lectures on Clinical Medicine. A. Trousseau. Translation New Sydenham Society, 1868, pp. 567, 580, 589, 590.

† The Science and Practice of Medicine, William Allen, M.D., 1866, p. 858.

‡ Practice of Medicine, Robert James Graves.

\* Lectures on Clinical Medicine. A. Trousseau. Trans. New Syd. Soc. pp. 589, 590.

† Op. cit. p. 549. ‡ Op. cit. p. 559. § Op. cit. p. 563.

Graves as they "have mentioned fright as a cause of the complaint,"\* he says "Amorrhœa had, perhaps in this case, a large share in the production of the disease, for the patient had not menstruated since her last labor, although she did not nurse her child, and the first morbid phenomena showed themselves eight days after her confinement."† With this fact strongly in favor of the disturbed menstruation being a cause, even he is in doubt, for he says "the paroxysm was perhaps a consequence only of the menorrhagic fever; that is, of the natural effort needed for the reestablishment of such an important function. Nearly complete aphonia set in after the paroxysm; but was it a mechanical complication, it may be asked; a result of increased congestion of the thyroid gland, or a purely nervous phenomenon dependent on the general neuralgic condition of the patient, of which exophthalmic goitre itself was only a consequence?"‡ In not a single autopsy detailed by Trousseau is a uterine lesion mentioned, and for corroboration reference can be made to a synopsis of three hundred cases presenting uterine symptoms treated at the Western General Dispensary between July, 1846, and March, 1849.§ A great variety of uterine disease, both mild and severe, is here represented, but I could not detect a single case of Graves's disease, either by name or grouping together any series of symptoms. The following well-known authorities on diseases of women do not mention it in their respective works, as ever having, in their experience, been associated with uterine disease: a fact which, considered in connection with Dr. Bennett's synopsis, points strongly against the chances of Graves's disease resulting from the irritation of the sympathetic by pathological conditions of the uterus.

Graily Hewett. *The Diagnosis, Pathology and Treatment of Diseases of Women.* Phil., 1868.

Alfred H. McClintock. *Clinical Memoirs on Diseases of Women.* Dublin, 1863.

James Henry Bennett. *A practical Treatise on Inflammation of the Uterus, its Cervix and Appendages.* London, 1863.

J. Marion Sims. *Clinical Notes on Uterine Surgery.* New York, 1866.

J. Baker Brown. *On Surgical Diseases of Women.* London, 1859.

T. Gaillard Thomas. *A practical Treatise*

\* Lectures on Clinical Medicine. A. Trousseau. *Tran. New Syd. Soc.* p. 563.

† Op. cit.

‡ A Practical Treatise on Inflammation of the Uterus, its cervix and appendages. By James Henry Bennett, London, 1863.

tise on the Diseases of Women. Phil., 1868.

J. Soelberg Wells, in speaking of the affection, says, "The true cause of the disease and the nature of the connection between the affection of the heart, the thyroid gland and the eye are at present unknown." \* \* \* "It is, however, far more probable that the affection is due to an irritation or neurosis of the sympathetic nerve, producing hypertrophy of the adipose tissue of the orbit and dilatation of the pupil." "One fact, which argues rather against the assumption that the disease is due to irritation of the sympathetic, is the condition of the pupil; for the latter was only in some cases dilated."\* To the reply of Dr. Reynolds, I simply offer the argument and evidence contained in the reply to Dr. T.

LYING-IN HOSPITAL, AND CHILDREN'S HOSPITAL, VIENNA.—The official report recently published for the year 1867, gives the following data respecting the General Lying-in Hospital. In the clinic for male students, there were 4216 confinements; in that for midwives, 3564; in the department for paying patients, 383; in all, 8163. The total mortality among the women was 94, or 1·1 per cent. The beneficial result of the new system of ventilation, introduced in 1863, is shown by the fact that during the last 4½ years 13 women died out of every 1000, while during 20 years (1830-1850), the average mortality was 77 in 1000.

The St. Anna Children's Hospital treated, in 1868, a total of 1104 children within its wards, and 8994 out-patients. The mortality was 20·4 per cent. of the former class. It is curious to see the list of diseases—the one of most frequent occurrence being scabies, then smallpox, measles, pneumonia, scarlatina. Evidently they are not very exclusive in their choice of patients for admission.

"This hospital," says the *Journal of the Vienna Medical Society*, "is a Charity, in the true sense of the word. It is capitally arranged and governed, and under the skilful care of Prof. Widerhofer it fulfils, in every respect, its aim. It offers to thousands of children an asylum in sickness, whether for reception within the hospital, or for ambulatory treatment. It offers, besides, the means of educating physicians in this branch of diseases, so important from the social and political points of view." No one who has seen the Hospital

\* A Treatise on Diseases of the Eye, 1860, pp. 621, 622.



at work, will fail to subscribe most cordially to the above remarks.

D. F. L.

**A NEW HYPNOTIC.**—Chloral, and Trichloroacetic acid, will, under certain conditions, in alkaline solutions, generate chloroform. This fact has been turned to profit by Dr. Oscar Liebreich of Berlin. He has administered an aqueous solution of chloral, hypodermically, first to rabbits, and then to a patient. 0.1 gramme, thus administered to a young rabbit, produced an effect within ten minutes. The animal fell into a deep sleep, during which he could be moved in any way without awaking; the respiration and pulse were somewhat retarded, regularly, and reflex excitability remained. An adult rabbit received 0.3 gram., and went through the same series of phenomena; finally losing reflex excitability, he lay for some hours breathing quietly, then awoke suddenly, and seemed quite well. Subsequent experiments upon a patient in the Charité Hospital seem to show that chloral, administered by the stomach or by subcutaneous injection, is a sure hypnotic, free from danger and followed by no ill results. It acted well even when large doses of opium or morphine failed. It is not yet an article of commerce, but, it is hoped, will soon be manufactured upon a large scale. [*Virchow's Arch.*, 47 B. 1 H.]

D. F. L.

**FISSURES OF SKIN OF ABDOMEN AND THIGHS, IN PREGNANCY.**—Certain fissure-like streaks, of a silvery white color, are often seen upon the abdomen when distended by pregnancy or by the presence of tumors, by excessive obesity, oedema, &c. Similar marks, seen upon the front of the thigh, have commonly been considered a symptom of pregnancy; but, as it seems, incorrectly. Prof. Schultze of Jena has examined 222 women, in hospital, who never were pregnant; and finds these thigh-marks upon 80 of them. He has not pursued the inquiry in regard to pregnant women; but he gives the final demonstration that the marks are not "a sign of pregnancy," by showing that they occur upon men as well as women, though much less frequently. His belief is, that they originate, in the case of women, from the lateral distention of the skin which takes place during the rapid development of the hips at puberty.—Quoted in *Allg. Med. C. Ztg.*, No. 53.

D. F. L.

**DIABETES TREATED WITH CARBONATE OF AMMONIA, ADMINISTERED LARGELY.** By F. W. PAVY, M.D., F.R.S.—In a recent number of

the *British Medical Journal*, I referred to a case of diabetes mellitus, that I was treating with carbonate of ammonia, administered to a larger extent than usual; and I promised, a little later, to send for publication on account of the result. This I now propose to do. The history of the case is drawn from the notes furnished to me by my clinical clerk, Mr. W. B. Taylor.

William F., aged 50, No. 2, John Ward, Guy's Hospital, admitted March 24th, 1869, a married man, by occupation an engineer on board a steam-vessel, plying between London and Yarmouth, states that about two years ago he noticed that he was losing flesh rapidly, and becoming very weak, and that at the same time he experienced an unusual amount of thirst and hunger, and passed a large quantity of water. The medical man whom he consulted told him he was suffering from diabetes, and sent him to Guy's Hospital, where he was admitted and remained for six or seven weeks. During this time he much improved, and upon his discharge passed between three and four pints of urine in the twenty-four hours, which was much less than he had formerly voided. He afterwards attended for three months as an out-patient, and still continued improving. Whilst under treatment, and for some time afterwards, he kept to a restricted diet; but about a year ago he resumed an ordinary mode of living, except that he avoided sugar, and only partook of potatoes occasionally. He also resumed his employment, and continued well up to a week before Christmas last. At this time he was shipwrecked at Yarmouth, and narrowly escaped being drowned. Two days afterwards, he noticed a return of his old symptoms; his urine began to increase in quantity, and he became again very thirsty. He resumed his former diet, but his complaint continued unabated, and finding himself daily getting thinner and weaker, he applied for admission into the hospital.

It is interesting to notice that after the complaint had been subdued and kept under for several months, a return of it in a state of severity seems to have been brought about by the shock received from his exposure to shipwreck. It is a fair conclusion, I think, that this was so, and it agrees with what I have noticed in other cases. I have long been of opinion that the complaint is susceptible of being influenced in a marked manner by mental states.

For the first few days after admission into the hospital, the patient was put upon a mixed diet. The quantity of urine ranged from 8 to 10½ pints *per diem*, and the sugar

from 6,000 to 8,000 grains. Without change of diet at first, he was ordered to take 100 grains of carbonate of ammonia during the course of the twenty-four hours. It was dissolved in a pint of water, and administered in small frequently repeated portions. The effect to begin with was to cause an increased quantity of urine to be passed, but the proportion of sugar being rather diminished, the quantity for the twenty-four hours remained about the same; a decided influence was exerted upon the cerebral functions. The patient felt giddy, stumbled, and upon one occasion almost fell in walking; and had dimness of sight, with occasional bright flashes before his eyes. He also experienced a feeling of sickness, but there was no actual retching or vomiting; and notwithstanding the feeling of sickness, he was able to take his food as usual.

On account of these symptoms, it was only for two days that the 100 grains of carbonate of ammonia were continued; and on the third day, 90 grains were taken, and the next day it was taken off altogether, and aqua camphora given instead. The patient was also now placed upon a restricted diet, which, as is usual, brought down the quantity of urine and sugar in a very notable manner.

In ten days' time the carbonate of ammonia was administered again. During the first day, 75 grains were taken, and then, as before, 100 grains. This time no particular inconvenience was complained of, and the patient was ordered to persevere with its employment. The first day the urine was higher in quantity, and continued afterwards rather higher than it had been, although the sugar remained for awhile about the same. Then, whether from the effect of the restricted diet or carbonate of ammonia, the sugar disappeared altogether, and after it had been absent for about ten days, the carbonate of ammonia was again taken off, and camphor-water given instead. The urine immediately rather fell in quantity, and remained devoid of sugar. After a lapse of nine days, a little ordinary bread—at first two ounces, and then four ounces, *per diem*—was allowed, and still the urine continued for a time free from sugar. Later, however, sugar reappeared, but not to any great extent. Again the carbonate of ammonia was given, and again an increase in the quantity of urine was noticed. For a few days the amount of sugar passed underwent no material change; subsequently, however, it again disappeared.

Looking at the facts of this case, taken

altogether, it would certainly seem that the carbonate of ammonia exerted a controlling influence over the disease. No immediate and decided effect, however, of the kind that is produced by the administration of opium, was traceable.—*British Medical Journal*.

ON LOCOMOTOR ATAXY. By J. LOCKHART CLARKE, M.D., F.R.S., &c.— \* \* \* \*

In a great number of instances, the first symptoms made their appearance in the form of strabismus, with diplopia, which may disappear for a time and then return; or in the form of amblyopia or weakness of sight, which may go on to complete amaurosis. After a variable period, these symptoms are accompanied by so-called "rheumatic" and lancinating pains, which occur at variable intervals in different parts of the limbs. In many cases, the ocular disturbances, except perhaps extreme contraction of one or both pupils, never make their appearance; the pains, which may extend over months or even years, accompanied by some weakness, being the first in the train of symptoms. Either at the same time, or subsequently, there is commonly more or less numbness in the feet and legs, in the hands and arms, and sometimes in the face. Sooner or later, the patient begins to find that he cannot properly maintain his balance; that he totters in walking, like a man partially intoxicated, or that he cannot guide the movements of his fingers. He has lost, to a certain extent, the power of controlling the action of some of his voluntary muscles. Still later, the voluntary movements become more or less jerking or spasmodic; and in the course of the disease other symptoms supervene, as incontinence of urine and dysuria, which frequently alternate in the same patient; loss of control over the sphincter ani; generally, though not always, loss of sexual power and desire; occasional hyperæsthesia over certain parts of the limbs, and sensations of tightness around the body and limbs. In rare cases, of which I have seen two, the senses of smell and taste are impaired. Usually, the patient's general health is not much affected, and his intellect remains unimpaired. Locomotor ataxy is a disease which occurs more frequently about the middle period of life, and is much more common in men than in women. This very concise outline must of course be considered only as a general introduction to the cases which I intend to relate.

*Morbid Anatomy.*—The morbid anatomy of locomotor ataxy consists chiefly of a

certain grey degeneration and disintegration of the posterior columns of the spinal cord, of the posterior roots of the spinal nerves, of the posterior grey substance or cornua, and sometimes of the cerebral nerves. A variable number, and frequently, in the latter stages of the disease, nearly all the nerve-fibres of the posterior columns and posterior roots fall into a state of granular disintegration, and ultimately disappear. Usually, the posterior columns retain their normal size and shape in consequence of hypertrophy of connective tissue, which replaces the lost fibres. In this tissue, at wide but variable intervals, lie imbedded the remaining nerve-fibres, with the *débris* of their neighbors, in different stages of disintegration. In some places they are severed into short portions, or into rows of globular masses, formed out of their medullary sheaths, or white substance, which has been stripped from their axis-cylinders. In other places they have fallen into smaller fragments and granules, which either lie aggregated in the line of the original fibres, or are scattered at irregular distances. Corpora amylacea are usually abundant, and oil-globules of different sizes are frequently interspersed among them, and collected into groups of variable shape and size around bloodvessels of the part. I am inclined to believe, from my own investigations, that, in the course of the disease, the posterior cornua of grey substance are *always* more or less affected, as I have elsewhere pointed out; and it appears to me to be a question whether they are not the first parts, or at least amongst the first parts, that are morbidly changed. I have also shown, and will show you to-day, that in some cases the deeper central parts of the grey substance are more or less injured by areas of disintegration. These latter lesions, however, are not essential to the production of locomotor ataxy, the peculiar symptoms of which depend solely on lesions of the posterior columns, of the posterior nerve-roots, and probably of the posterior cornua. The cases in which they occur may be considered as mixed cases, partaking of the nature of locomotor ataxy and common spinal paralysis, like the second of those which I shall describe.\*—*British Medical Journal*.

MEDICAL SCIENCE IN JAPAN.—An interesting account of the art and science of medi-

\* All the morbid appearances above described were shown to members of the Association at Oxford, in preparations made by the author from spinal cords, &c., of cases of locomotor ataxy.

cine amongst the Japanese is given in one of the American journals, by Dr. Vedder, an American physician, and now the chief medical adviser to the Prince of Nagato. The Japanese doctors hold very good positions in society. They originally derived their knowledge from the Chinese, but of late years the diffusion among them of Dutch literature has done much to their enlightenment. There are no schools of medicine in Japan, but the son scrapes together as much information as he may be able from his father, or the native practitioner dispenses his empiricism to the two or three pupils that generally reside with him. An attempt is being made to establish a school at Nagasaki, in connection with the hospital there, but it is likely to fail from the fact that Dutch is the only foreign language allowed to be used. Physicians carry a couple of swords, and special respect is paid to their opinion, although they are generally paid for medicine alone; and, as may be imagined, the latter is ample and bulky. Sometimes, however, a special honorarium is given to the doctor at the close of the treatment of a case. Very little is known of anatomy. There are native names for veins, nerves, lymphatics, and the principal anatomical structures, but topographical anatomy is entirely unknown, since dissection is not permitted. The Japanese are quite in the dark with regard to physiology. The liver they imagine to be the seat of courage. The doctor feels the pulse at both wrists at the same time, in the belief that there is a heart on either side of the body. There are a few works on tumors in Japan, the contents of which have been dictated by fancy or the traditional accounts of disease. Foreign medicines, nevertheless, are in use now-a-days; iodide of potassium, Hoffman's anodyne, quinine, henbane, and phosphoric acid amongst others.—*Dublin Medical Express and Circular*.

THE OXALATE OF CERUM IN THE VOMITING OF PREGNANCY. By J. WARING CURRAN, L.K. and Q.C.P.I., L.R.C.S.I., &c.—The object of the present paper is to bring more prominently forward the valuable therapeutic action of the oxalate of cerium in controlling the distressing nausea of pregnancy. Most practitioners have at one time or another experienced the difficulty of finding a successful remedy for the alleviation of this most disagreeable concomitant of the parturient state when it arises, and a few perhaps at the cost of their professional reputation. Baffled as others have been in

getting hold of a successful agent to counteract the vomiting of pregnancy, experimenting with every new remedy likely to prove efficacious, adopting the favorite formula of reputed obstetricians, and exhausting every available and plausible method of treatment without reliable success, I became induced to prescribe the oxalate of cerium, and I can assuredly testify with the best effects and the most satisfactory results. Doubtless there are many remedies which temporarily subdue the incessant nature of the vomiting by neutralizing the acid generated in these cases; but none with the *permanent* and salutary advantages of the drug I advocate.

I administer it in the form of pills, as follows:—

R. Cerii oxal.

Ext. lupuli, aa gr. xxiv.

Div. in pil. xij., cap. i. ter in die.

and at the same time exhibit bromide of potas. in ten-grain doses, with the tincture of yellow cinchona bark and spirits of ammonia. The mixture and pills appear to constitute a most successful plan of treatment.

At my suggestion Dr. Pultney, of Huddersfield, has given extensive trial to the oxalate of cerium; and in a communication just received from that gentleman I learn that he is preparing for publication the successful issue of a number of cases treated by cerium, some of which, previous to its administration, had evinced serious symptoms.—*Ibid.*

**VARICOCELE TREATED BY SOLUBLE ANTISEPTIC LIGATURES.** By E. ANDREWS, M.D., Prof. of Principles and Practice of Surgery, Chicago Medical College.—Prof. Lister, of Glasgow, Scotland, gives an account in a late London *Lancet* of an experiment upon a calf, in which he tied the carotid artery in two places with animal ligatures, soaked in carbolic acid solution. One of the ligatures was a piece of fine catgut, and the other a string made by twisting up strips of calf's peritoneum. The ligatures were cut off close and left in the wound. The whole wound was then well washed with solution of carbolic acid, closed with sutures, and sealed up, air-tight, with a carbolic acid dressing, covered with tin foil, and healed by first intention. The Editor of the *Lancet*, in commenting on this experiment, makes the remarkable, but erroneous statement, that the dead animal ligatures employed acquired bloodvessels, &c., and actually became living organized tissues. This, however, is a laughable misconception.

tion. Professor Lister states simply this: At the end of a month the calf was killed, and the parts carefully dissected. The incision had healed without suppuration, nor was there a particle of pus at the places of the ligatures. The artery was found perfectly closed, though the proximal ligature was close to a large branch. At first glance, it seemed as though the ligatures had become organized, because their places were occupied by bands of living, fibrous tissue, running round the vessel, and giving it great strength and security, notwithstanding the proximity of the large arterial branch. Close examination, however, showed that the bands consisted of new tissue, simply occupying the places of the ligatures which had become gradually absorbed. On the posterior side of the artery, a small piece of each ligature remained, whose absorption had not yet been completed. \* \* \*

—*Chicago Medical Examiner.*

Dr. Andrews, in imitation of Dr. Lister, made ligatures of tendon from the fore-leg of an ox, and tied a varicocele with them. The operation was successful. The ligatures produced no trouble, and were supposed to be undergoing absorption.

**THE PULSE OF PARTURIENT WOMEN.**—Of 400 women observed in the Hospital Cochin, by M. Hemy, 64 presented slowness of the pulse in different degrees, while an alteration in its rhythm was noticed in 94. Slowness of the pulse in parturient women ceases when the milk-fever begins, whereas its irregularity and inequality continue in most cases until the tenth day. This slowness of the pulse is attributed by MM. Marcy and Blot to an increase of the arterial tension, caused by the sudden suppression of the uterine circulation. M. H. thinks it is due to the shock produced upon the system by the parturient act and the consequent nervous depression, the intensity of which varies in different cases, as does the intensity of the milk-fever which caused it to cease. The influence of moral emotions in causing an increase in the frequency of the pulse is another argument in favor of this vital and organic explanation, rather than of the entirely mechanical one.—*American Journal of Obstetrics.*

**A CASE OF CHRONIC HYDROCEPHALUS.**—There is a child in Dayton, Ohio, aged 17 mos., afflicted with chronic hydrocephalus, whose head measures 27 inches in the occipito-frontal circumference, and 19 inches from one meatus of the ear to the other, over the top of the head.—*Med. Record.*

## Medical Miscellany.

**THE ESSEX NORTH DISTRICT MEDICAL SOCIETY.**—Our citizens were startled, a short time since, at seeing a battalion of doctors marching down State Street, led by the venerable Dr. Root, of Byfield, who, like Saul of old, stood head and shoulders above his fellows. It soon came out that it was the quarterly meeting of the Essex North District Medical Society, the members of which, having cured, or otherwise disposed of their patients, concluded to attend to the recruiting of their own health, by an excursion in the bay, as guests of the Newburyport members—Drs. Perkins, Cross, Howe and Snow.

At a little past tea o'clock they went on board the good schooner Comet, Capt. Felch, accompanied by a few legal gentlemen, members of the press, &c., who were invited, as they at first imagined, to give dignity to the affair, though they afterwards concluded, from the way they were stuffed with all the good things of this life, including such as cucumbers, iced lemonade and ice-cream—that there was a conspiracy on the part of the doctors, business being dull, to get up a few cases of cholera morbus, just to keep their hands in.

A fine collation of cold meats and all the incidentals was in order at an early hour, of which while the party is partaking, we will say a word about the Society. It is a branch of the Massachusetts Medical Society, which has one or more branches in every county. It was organized in 1841, Jonathan G. Johnson, President, and Frank V. Noyes, Secretary, the first annual meeting being held in the Merrimack Academy, Groveland. There are at present fifty-five members, the oldest of whom is Dr. Richard S. Spofford, of this city, Dr. Jeremiah Spofford, of Groveland, being the next, and both, we believe, being rising 80. The following are the officers for the current year:—W. D. Lamb, Lawrence, *President*. Seneca Sargent, Lawrence, *Vice President*. Martin Root, Newbury, *Secretary and Treasurer*—he having held the former office since 1843, and latter since 1853. O. S. Lovejoy, Haverhill, *Librarian*. S. K. Towle, *Corresponding Secretary*. D. Dana, Lawrence, J. C. Howe, Haverhill, G. W. Snow, Newburyport, W. H. Kimball, Andover, and J. P. Whittemore, Haverhill, *Censors*. J. B. Nichols, Haverhill, S. Tracy, Andover, E. Cross, Newburyport, H. C. Perkins, Newburyport, and O. Warren, West Newbury, *Councillors*. Jeremiah Spofford, Groveland, *Commissioner on Trials*.

After dinner, symptoms of the inevitable speech making begun to manifest themselves, which, though they were kept down for a while by a mild treatment of more music, solemn jokes, political gossip, lemonade and cigars, it finally broke out and run its course, assuming, in fact, a chronic type, which lasted till we reached the wharf. "Parting drinks" were taken after we got inside the bar, in the shape of a third set down to lemonade, ice cream and cake, the excellent quality of which was in keeping with the entire bill of fare.

To sum up, a better company and a better time—where genial hilarity proved itself compatible with perfect sobriety, and everything went off as smoothly as the Merrimack flows in its channel—it never was our pleasure to participate in. The greatest credit is due to the Newburyport members of the Society for the handsome and generous style in which they entertained the company, which included a good proportion of the Society, several medical gentlemen from abroad and invited guests from this city.—*Newburyport Daily Herald*.

**DR. MCQUILLEN'S PAPER.**—The paper by Dr. McQuillen, Editor of the *Dental Cosmos*, on the Effect of Anesthetics on the Blood-corpuscles, a large portion of which we copied into this JOURNAL some time since, has been translated into German and published in the *Deutsche Klinik* for July 17, 1869.

**BUSTS OF TROUSSEAU.**—Two busts of Trousseau have just been finished—one for the Hall of the Faculty of Medicine, the other for the peri-style of Hôtel Dieu.

**DEATH OF PROF. PURKINJE.**—On the 28th of July last, Prof. Purkinje deceased at the age of 82 years. His works on Vibratile Movement and on the Development of the Otrum are well known to all scientific men.

## MEDICAL DIARY OF THE WEEK.

**MONDAY, 9 A.M.,** Massachusetts General Hospital, Med. Clinic. 9 A.M., City Hospital, Ophthalmic Clinic.  
**TUESDAY, 9 A.M.,** City Hospital, Medical Clinic, 10 A.M., Surgical Lecture. 9 to 11 A.M., Boston Dispensary. 9-11 A.M., Massachusetts Eye and Ear Infirmary.  
**WEDNESDAY, 10 A.M.,** Massachusetts General Hospital, Surgical Visit. 11 A.M., OPERATIONS.  
**THURSDAY, 9 A.M.,** Massachusetts General Hospital, Medical Clinic. 10 A.M., Surgical Lecture.  
**FRIDAY, 9 A.M.,** City Hospital, Ophthalmic Clinic; 10 A.M., Surgical Visit; 11 A.M., OPERATIONS. 9 to 11 A.M., Boston Dispensary.  
**SATURDAY, 10 A.M.,** Massachusetts General Hospital Surgical Visit; 11 A.M., OPERATIONS.

**TO CORRESPONDENTS.**—Communications accepted:—*One Glow-worm from Illinois.*—Case of Strangulated Hernia—Surgical Cases at the City Hospital—Veratrum Viride and Veratrin—Watermelon ex. Diarrhea.

**MARRIED.**—At Georgetown, D. C. 17th Inst., Dr. Geo. A. Otis, Bvt. Lt.-Col. and Asst. Surg. U.S.A., to Genevieve Poe, of Georgetown.

**DEATHS IN BOSTON** for the week ending August 21.  
117. Males, 65—Females, 62.—Abscess, 1—accident, 6—apoplexy, 2—disease of the bowels, 2—congestion of the brain, 1—disease of the brain, 2—inflammation of the brain, 1—bronchitis, 1—cancer, 1—cholera infantum, 26—cholera morbus, 3—consumption, 21—croup, 1—cyanosis, 1—debility, 2—diarrhea, 8—diphtheria, 2—dropsy, 2—dropsy of the brain, 3—typhenteria, 5—typhoid fever, 3—disease of the heart, 1—hernia, 1—infantile disease, 1—intemperance, 1—disease of the kidneys, 1—laryngitis, 1—disease of the liver, 2—congestion of the lungs, 1—inflammation of the lungs, 2—marasmus, 1—old age, 1—paralysis, 1—peritonitis, 1—puerperal disease, 1—disease of the spine, 1—syphilis, 1—unknown, 4—whooping cough, 1.

Under 5 years of age, 52—between 5 and 20 years, 12—between 20 and 40 years, 27—between 40 and 60 years, 14—above 60 years, 12. Born in the United States, 88—Ireland, 22—other places, 7.